Model Forests

Background Information and Guidelines for Applicants

September 1991

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Model Forests Request for Proposals

Message From The Minister

In December 1990, the federal government released its environmental action plan entitled *Canada's Green Plan for a Healthy Environment*. Within the Green Plan, the federal government outlined a series of initiatives aimed at enhancing the management of Canada's forests through a program called *"Partners in Sustainable Development of Forests."* This program represents a federal response to the initiatives of the Canadian Council of Resource Ministers to achieve sustainable development of our Canadian forests.

A major component of this program is an initiative to establish a network of Model Forests. Under this initiative, the federal government, in cooperation with partners across Canada, will support the establishment of working models of sustainable forestry in each of the major forest regions of Canada. Areas selected for this program will represent the biological diversity of the region and a variety of stakeholder interests. These model forests will be managed for a full range of user interests from natural area conservation through industrial wood production. Provincial and territorial governments, owners and managers of the vast majority of the forest resources in Canada have expressed strong interest in the program and will play a leadership role in the success of this initiative.

Recently I announced the details of the *Partners in Sustainable Development of Forests* program and issued a public request for proposals from parties interested in establishing a Model Forest. The Model Forests will be selected through a competition administered by a National Advisory Committee on Model Forests, who will make recommendations.

The deadline for proposals is December 20, 1991. Interested applicants are asked to file a letter of intent in order to submit a proposal. Letters of intent may be submitted at any time, but no later than October 25, 1991. Strict adherence to deadlines will be maintained in order to enable decisions to be announced by June 1, 1992.

Thank you in advance for your interest in this program.

Frank Oberle
Federal Minister of Forestry

Part I. Program Overview

1. Background

Canada's Green Plan

In December 1990, the federal government issued a comprehensive environmental action plan, entitled *Canada's Green Plan for a Healthy Environment*. The Green Plan was based on an extensive, national public consultation process, involving close to 10,000 Canadians through a series of consultation meetings and workshops across Canada. Funding for the Green Plan totals some $3 billion over six years to address eight strategic areas of the environment. One of these is the goal of promoting the "Sustainable Use of Canada's Renewable Resources," which includes forestry, fisheries and agriculture.

During the Green Plan consultations, Canadians across the country emphasized the importance of Canada's forests and expressed concern over the state of forests and how they are managed. They emphasized the need for integrated resource management, recognizing both timber and non-timber values. Participants also favoured an approach to forest management that recognizes ecological factors and processes, encourages biodiversity, recognizes all costs and benefits and is based on a solid understanding of forest ecosystems and sound management practices.

Partners in Sustainable Development of Forests Program

With respect to forestry, the goal of the Green Plan is to "shift the management of Canada's forests from Sustained Yield to Sustainable Development." In forestry, sustainability refers to our ability to manage the forest resource without prejudice to its future productivity, ecological diversity and capacity for regeneration. But it also refers to achieving a balance of our economic, environmental and social values for which the forests are managed.

To achieve this goal, the Green Plan outlined the *"Partners in Sustainable Development of Forests"* program which is designed to accelerate the implementation of sustainable development in forestry. Total funding for the "Partners" program is $100 million over six years. The program is comprised of three main components:

1. Establishment of a network of large-scale, working

models of sustainable forestry in each of the major forest regions of Canada.
2. Implementation of an accelerated and expanded forestry research program leading to the development of a new array of environmentally sound management techniques and strategies.
3. Expansion of the data and information available on Canada's forests, including forest health monitoring networks and environmental data-bases to improve decision-making and better reflect the multiple values of Canada's forests.

2. Model Forests

2.1 Introduction

Managed in a sustainable manner, forests provide long-term environmental, social and economic benefits. Forests are a key element of Canada's natural environment, providing clean air and water, supporting fish and wildlife and providing recreation and wilderness areas. Concurrently, the forest sector is of overwhelming national economic significance. In 1987, this $44.3 billion industry provided one in 14 jobs and was the economic mainstay of 350 single-industry towns.

The world forestry community faces unprecedented challenges over the coming decades. Canadians, as custodians of 10% of the world's forests and principal traders of forest products, have obligations and opportunities to exhibit international leadership in forest management. There are deep concerns about forest resources worldwide. Within our own country, Canadians are seeking assurance that we have the ability to replace the forests we harvest, and that we can ensure the continued productivity and biological diversity of the forests upon which we rely. Sustainable development is a term that summarizes these concerns and encapsulates our resolve to ensure the continued availability of all the resources that the forest can offer to present and future generations.

The Partners in Sustainable Development of Forests program is designed to accelerate the implementation of sustainable development in the practice of forestry. As a consequence, the network of "model forests" that will be established must meet basic criteria that support the concept of sustainable development. These criteria, discussed below, underline the need to ensure that the full range of forest values is included in our forestry practices, and challenge us to incorporate necessary changes in our institutional structures.

Sustainable Development

In practical terms, sustainable development applied to forestry represents the achievement of an economic and environmental balance in our approach to all forest values.

We understand and value the concept of economic wood supply and this remains a high priority in the plan for sustainable development of forest resources. There are numerous other values, however, and these vary from place to place according to ecological and geographic situations. Among these values are six that were voiced repeatedly among participants in the National Forum on Sustainable Forestry sponsored by the Canadian Council of Forest Ministers in 1990:

- maintenance of employment opportunities
- maintenance of water supply and quality
- maintenance of recreational activities and opportunities
- maintenance of genetic resources
- maintenance of undisturbed ecosystems
- maintenance of wildlife

These values are almost universal and are natural qualities in any sustainable development plan for a forest. The challenge, therefore, is not so much to choose the right values, but to determine how much importance and emphasis should be given to any one in relation to the others.

Institutional Structures

Traditionally, for a given territory, forest management decisions have been the primary concern of those who had a direct role in managing the forest. In a broader context, we are being asked today to:

- identify the values to be maintained;
- give the interested public and other stakeholders a say in the decision-making process;
- establish both a consensus on the objectives and a mechanism to resolve differences and misunderstandings;
- establish the above within our institutional structures as a way of doing business.

New management objectives will be established to bring interested parties into the decision-making, implementation and monitoring processes. Sustainable development is a concept through which an equitable distribution of the risks and benefits among all concerned is sought.

2.2 Objectives

Forestry Canada is supporting the establishment of a network of model forests, complemented by an associated program of enhanced research and information. This initiative will assist forest managers in Canada in implementing ecologically sound and scientifically advanced management practices. In addition, these areas will serve to demonstrate, both nationally and internationally, sustainable development in forestry and the management of forests for a broad range of values.

Specifically, the objectives of Model Forests are:

1. To accelerate the implementation of sustainable development in the practice of forestry, in particular the concept of integrated resource management;
2. To apply new and innovative approaches, procedures, techniques and concepts in the management of forests;
3. To test and demonstrate best sustainable forestry practices utilizing the most advanced technology and forestry practices available.

2.3 Model Forests Network

The overall network of Model Forests will comprise highly productive sites that represent the eight major forest regions of Canada. The network will reflect the various types of land tenure and major uses of the forest. General accessibility will be one of the factors considered. The network will also represent a variety of values, such as wildlife, biodiversity, watersheds, fisheries and carbon pools, in addition to the essential component of fibre or timber, and will serve to demonstrate how to manage forest systems in a sustainable development context. Regional issues of concern to the public and forest managers, such as old growth, clearcutting, pest management etc. will be given serious consideration during the selection of appropriate model forests.

While a minimum size of a Model Forest has not been predetermined, the intent of the program is to implement sustainable development over a large scale that is applicable and representative of Canadian forestry. *This is likely in the order of at least 100,000 hectares*. This does not preclude several owners or managers grouping together to form a partnership involving a larger area of forest.

While the exact number of Model Forests has not been predetermined, it is anticipated that as many as nine or as few as six Model Forests will be supported.

2.4 Partnerships

One of the major features of the Model Forests is partnership. Partnership is a fundamental principle of sustainable development that integrates social, environmental and economic elements. The program is seeking proposals that include a broad range of partners such as:

- provinces
- industry
- local governments
- professional organizations
- environmental non-government organizations
- native peoples
- other federal agencies
- private land owners
- universities, colleges, schools
- international organizations

2.5 Management Concepts

Model Forests should:

- show convincingly a long-term commitment to the concept of sustainable development in everyday business, beyond the duration of the Model Forests program;
- have specific goals for social, environmental and economic benefits;
- include the delivery of wood products;
- ensure that the forests contain at least one other valued feature for which active management exists or is planned;
- support or be capable of supporting a range of "best management practices" through appropriate silviculture;
- ensure that the forests are suitable for and allow for the conduct of appropriate research and for development and application of results to forest management practices;
- establish operations within the framework of a published planning system, inventory of resources, assessment (including environmental assessment) and monitoring;
- provide for the production of an annual Report of Operation;
- display imagination and innovation in all decisions affecting planning, management, operations and research;
- specify all associated costs;
- demonstrate opportunities for multi-disciplinary management, incorporating a variety of forest uses (e.g. timber, wildlife, recreation) and a variety of forestry disciplines such as forestry, biology, soils and related management and research disciplines.

2.6 Management Structure

Each Model Forest should:

- represent input from several organizations and agencies including governments, industry, academia, environmental groups and other interested stakeholders;
- be administered by a Partnership Committee, consisting of principal stakeholders including Forestry Canada and representing a wide range of interests and values in the forest resources;
- incorporate public consultation during the initial phase of establishment and provide for active public involvement as part of its decision-making process;
- develop plans for communications and technology transfer;
- ensure the availability of expertise for the conduct of resource assessment and inventory, research and development and monitoring.

2.7 Communications and Technology Transfer

Effective communication of principles and procedures for sustainable development of the forest resource is fundamental to the success of the Model Forests initiative. This requires an innovative approach not only to the transfer of research and development results, but to the promulgation of the partnership concept beyond traditional user groups to embrace a multitude of interested parties, including special interest groups, media, communities, educators and the Canadian and International communities.

Communications criteria might include:

- communication of intended procedures for decision-making to all stakeholders of the affected lands;
- communication of the process of decision-making to the media, public at large and particularly to communities wishing to apply the principles of sustainable development to local forest resources;
- communication of the efficacy of management decisions to stakeholders and other interested parties;

- transfer of findings from inventory, research and monitoring to the decision-making process;
- communication of information needs in decision-making to researchers;
- participation in national and international initiatives.

2.8 Funding

Total funding for the *Partners in Sustainable Development of Forests* program is $100 million over six years. The budget for the Model Forests is estimated at $54 million over six years. While the level of funding for each Model Forest has not been predetermined, and will depend on both the quality and number of proposals supported, the federal contributions to a Model Forest could be as high as $1.5 million a year.

In addition, much of the research to be implemented under the Partners program will be done in direct support of the Model Forests network and is estimated at some $33 million over six years. The research programs to be undertaken are described in more detail in Appendix 1 to this document.

3. Application Information

3.1 Review and Selection Process

The Minister of Forestry has appointed a National Advisory Committee on Model Forests to make recommendations on the selection of the Model Forests. The Committee will be supported in its work by a Technical Review Sub-committee which will draw on specialists from a variety of fields across Canada. The Sub-committee will provide technical expertise and advice to the Committee regarding the technical feasibility and implications of the various proposals.

3.2 Selection Criteria

All proposals for Model Forests will be reviewed on the basis of the following selection criteria and weighting:

1. The objectives and management philosophy proposed for the Model Forest and how they support the concept of sustainable development and integrated resource management (40%):
   - the goals and objectives of the Model Forest and the balance between differing objectives;
   - the management concepts, structure and decision-making processes proposed;
   - the nature of the partnership proposed and the involvement of key stakeholders;
   - the relevance of the proposal to the objectives of the Model Forests program.
   - a long-term commitment to the principle of sustainable development.

2. The activities and results proposed for the Model Forest using "best forestry practices" (25%):
   - the activities, outputs and results proposed over the five-year period;
   - how these support the objectives and goals of the Model Forest;
   - how these activities differ from present practices.
3. The use of the most advanced technology and the demonstration of techniques and results (25%):
   - how any gaps in the technology, expertise or knowledge needed to implement the Model Forest proposal will be addressed;
   - how the Model Forest will link into existing research programs, including the new Forestry Canada funded Green Plan research initiatives, and the collaborators involved in the proposal;
   - how the results achieved in the Model Forest will be transferred and diffused to others, nationally and internationally.
4. How the results will be communicated to the public and the general financial and administrative management of the proposal (10%):
   - the proposal for general public communications activities;
   - the feasibility of the budget;
   - the degree of leveraging accomplished with the aid of federal funds.

3.3 Eligibility

Any organization with the management responsibility for an area of forest may submit a proposal to the program.

3.4 Information Sessions

Information sessions will be held across Canada for persons interested in submitting a Model Forests proposal. These sessions will provide an opportunity to seek additional information or clarification on the program or to ask questions. Information sessions will be held in each of the Forestry Canada Regions across the country. To find out the date and location please contact your nearest Forestry Canada office (these are listed Appendix 2).

3.5 Letters of Intent

Before submitting a formal proposal, applicants are asked to submit a brief letter of intent (2-5 pages) that includes the following information:

- the applicant
- a list of the key participants in the proposal
- a brief description of the Model Forest (location, size etc.)
- the relevance of the proposed Model Forest to the program.

Letters of intent should be post-marked no later than October 25, 1991.

3.6 Submitting a Proposal

Proposals are being requested in a common format to facilitate their evaluation and review. Part II of this document provides an outline for each proposal and detailed guidelines for the preparation of proposals to the program.

Proposals must be post-marked no later than December 20, 1991.

3.7 Decisions

Decisions will be made by the Minister of Forestry, taking into account the review and recommendations of the National Advisory Committee on Model Forests. The recommendations of the Committee will be made public once the Minister's decisions have been announced.

Decisions are expected to be announced by June 1, 1992.

3.8 Administration of Model Forests

The Model Forests program is administered by Forestry Canada. Model Forests will be selected from the proposals received.

After the Model Forests are selected, a formal agreement will be signed between Forestry Canada and the Model Forest proponent(s). The program is for an initial five-year period (1992-1997); however, an agreement will be signed annually between the proponent(s) and Forestry Canada. An Annual Report, as well as periodic status reports, will be required from each Model Forest. Each Model Forest will be evaluated by Forestry Canada prior to the end of the third year of operation (1994-95).

PART II. COMPLETING A MODEL FOREST PROPOSAL

1. GENERAL INFORMATION

These guidelines are designed to assist applicants in preparing a proposal to the Model Forests Program of Forestry Canada. Proposals are being requested in a common format in order to facilitate their evaluation and review. Therefore, applicants are advised to read these guidelines carefully. Additional information can also be obtained from any office of Forestry Canada.

Number of Copies

Please submit six (6) copies of your proposal (original plus five copies).

Deadline Date

Complete proposals must be postmarked no later than December 20, 1991. Incomplete proposals will not be accepted.

Mailing Address

Complete proposals should be sent to:

Model Forests Program
Forestry Canada
351 St. Joseph Blvd.
Hull, (Quebec)
K1A 1G5.

General Presentation

Please use single-spaced typing (one side only), letter-quality print and black ink. Please use a standard-sized type of sufficient size to ensure legibility (e.g. 12 characters to the inch).

Official Languages Policy

Forestry Canada is pleased to serve the public in either official language. Indicate your preference on the form.

Confidentiality

All proposals submitted will remain confidential. Proposals will be seen only by members of the Advisory Committee, technical reviewers engaged by the Committee and Forestry Canada.

2. MODEL FOREST PROPOSAL OUTLINE

1. Project Summary

1.1 Project Title
1.2 Proposal Sponsor
1.3 Partners
1.4 Signatures
1.5 Project Summary

2. Model Forest Description

2.1 Site Description
2.2 Forest Resources
2.3 Social & Community Considerations
2.4 Economic Considerations
2.5 Current State of Resource Management

3. Goals and Objectives

3.1 Values
3.2 Strategic Goals
3.3 Objectives

4. Management

4.1 Management of the Model Forest
4.2 Project Administration

5. Proposed Activities & Deliverables

6. Research

7. Technology Transfer & Demonstration

8. Public Awareness & Education

9. Budget and Administration

9.1 Project Administration
9.2 Budget

3. Guidelines for Completing a Proposal

Section 1
Project Summary (2 pages max.)

1.1 Project Title

Enter the title of your Model Forest proposal. The title will be used for communications activities and the publication of lists, brochures etc.

1.2 Proposal Sponsor

Enter the name of the person who is responsible for the leadership of the proposal. Include their title and sponsoring organization, along with their address, telephone number and fax number.

1.3 Partners

List the Partners in the Model Forest along with their title, organization, address and telephone and fax numbers. (The list of Partners should correspond to the Partnership described under Section 4 – Management of the Model Forest).

The Model Forest Partners could include those playing an active role in the management and decision-making process for the Model Forest, those with a significant investment of cash or in-kind support necessary to the execution of the proposal, or other key stakeholders as necessary for the success of the Model Forest. Owners of land included in the proposed Model Forest (or their representative associations) must be included as partners or at least provide a letter confirming their consent.

1.4 Signatures

The original must be signed by the leader of the proposal identified in Section 1.2 as well as by the head of the sponsoring organization. Signatures from those identified as partners indicating their commitment to the proposal should also be included.

1.5 Project Summary

Please provide a concise and non-technical summary of your Model Forest proposal. *Do not exceed two hundred words.*

Section 2
Model Forest Description
(10 pages max.)

The purpose of this section is not to present a technical inventory or a compendium of detailed data but to provide a general description of the Model Forest that will give the reviewer a context for the proposal and an understanding of the Model Forest. This section should give the perspective necessary to understanding the Model Forest by providing an overview of the physical nature of the Model Forest, along with a description of the environment, economic and social factors that have an impact on its management and use.

2.1 General Description

Provide a general description and include a map of the proposed Model Forest. In describing the Model Forest, include:

- size of the forest
- area description (land types, areas, water etc.)
- land ownership, licence arrangements, sub-licences
- areas of reserved forest (parks, wilderness etc.)
- access to area, transportation network
- other relevant features of the Model Forest site

2.2 Forest Resources

Describe the forest resources within the Model Forest. While it is recognized that some of this information may not be available, the proposal should be based on the best available information. This may include a *summarized description* of:

- the productivity of the land and its potential for various uses
- the different forest types and ecosystems
- the timber resources of the forest, including species, age class distribution, volumes of timber, annual allowable cut etc.
- the non-timber forest resources, including wildlife habitat and population, fisheries, recreational areas etc.
- any unique environmental features in the area, including sensitive sites, wilderness areas, areas of cultural or spiritual significance etc.

2.3 Social & Community Considerations

Describe in general terms the social factors and communities in relation to the Model Forest, such as the size, number and nature of the communities included in or dependent on the Model Forest. Describe the dependency of the people on the Model Forest for employment, either in forestry or other uses of the forest such as tourism, hunting, recreation etc. Describe other relevant social issues or factors in the Model Forest, such as native issues, small woodlot owners etc. Include a brief history of the area if you feel it may lend a helpful perspective to understanding the area.

2.4 Economic Considerations

Describe the economy of the area, with particular reference to those activities dependent on the Model Forest, including manufacturing facilities, production, principal products and markets for all forest resources. Include a discussion of the present and forecasted supply and demand for both timber and non-timber forest resources.

2.5 Current State of Resource Management

Provide a brief history of past management and use of the Model Forest for both timber and non-timber resources.

With respect to timber management, outline the current forest management program of the Model Forest. This should include the areas harvested and regenerated (natural and artificial), the area of silviculture treatments and other management activities for the past five years.

Describe current management programs and activities for non-timber resources, including wildlife habitat, recreation, fishery enhancement etc.

Provide a summary of the annual operating budget for management of the forest for the past five years and indicate the source of funding for these activities (i.e. company, province etc.).

Section 3
Goals and Objectives
(5 pages max.)

3.1 Strategic Goals

Provide a concise opening statement that captures the "vision" or management philosophy for the Model Forest.

Discuss the strengths and weaknesses of the present management regime and the major issues to be addressed in managing the Model Forest. Describe the strategic goals for the proposed Model Forest. This should concisely summarize what you hope to achieve through the management of a Model Forest. Include a discussion of how the strategic goals of the Model Forest proposal address the following objectives of the program:

- accelerating the implementation of sustainable development in the practice of forestry, in particular the concept of integrated resource management;
- applying new and innovative approaches, procedures techniques and concepts for the management of forests;
- testing and demonstrating best sustainable forestry practices utilizing the most advanced technology and practices available.

Finally, describe the long-term commitment that the sponsoring organization is prepared to make to the values, goals and concepts proposed, beyond the initial five-year period of the proposal.

3.2 Objectives

Outline the specific objectives to be achieved during the first five years of the proposed Model Forest. Social, environmental and economic objectives for the Model Forest, should be stated specifically and quantified wherever possible. While the Model Forest must include management for commercial fibre supply, the proposal should indicate the additional resource objectives that are to be included in the management regime. Discuss how trade-offs among conflicting objectives will be assessed, evaluated and managed.

Section 4
Management
(5 pages max.)

Describe the management structure and administration of the proposed Model Forest. Issues to be discussed in this section could include:

- formation, membership and role of a Partnership Committee, including principal stakeholders representing a wide range of interests and values in the forest resource;
- incorporating public consultation during the initial phase of establishing the Model Forest and active public involvement as part of the decision-making process;
- process for resolving and managing conflicting or multiple objectives for the forest;
- opportunities for multi-disciplinary management incorporating a variety of forest uses and disciplines;
- constraints to successfully implementing the Model Forest proposal that are imposed by present regulations or legislation and how these might be addressed;
- responsibility for planning, decision-making and resource allocation.

Section 5
Proposed Activities & Deliverables
(10 pages max.)

Describe the activities, outputs and deliverables for the proposed Model Forest over the next five years, including the major activities to be undertaken, how these support the goals and objectives of the proposal and how the activities differ from the present activities or methods in the Model Forest. Examples of areas to be included, depending on the proposal, could include:

- resource inventory/data
- information systems (GIS, decision support systems)
- management planning/integrated resource management (the integration of different values in the planning framework, such as timber, wildlife, recreation, fish, wilderness, water, culture etc.)
- intensive silviculture
- improved harvesting operations
- forest protection/integrated pest management
- environmental protection

• utilization
• access

Specific targets or milestones should be outlined on an annual basis wherever possible for the first five years. Outline in more general terms the activities envisaged for years 6-10.

Provide information on how you will access the needed expertise to undertake the activities proposed. Indicate the major collaborators to be involved in the various activities, their qualifications, organizations and degree of commitment.

SECTION 6
RESEARCH
(5 pages max.)

Describe the role envisaged for research in contributing to management of the proposed Model Forest. Discuss the gaps in technology and/or knowledge that should be addressed in order to achieve the objectives of the Model Forest.

Describe the linkages to be established to existing research programs and activities of other organizations (federal, provincial, universities or other institutions) in order to provide the knowledge or technology needed. In particular, applicants are encouraged to establish linkages to the research programs to be funded by Forestry Canada through the *Partners in Sustainable Development of Forests* program of the Green Plan. An overview of the research initiatives of this program, along with contact names for further information can be found in Appendices 1 or 2 of this document.

Describe how these research programs can/will contribute to the objectives, priorities and activities of the Model Forest. Also indicate how these linkages will be established and managed and the commitment of the identified research organizations in collaborating in the Model Forest proposal, and the extent of their commitment. List the collaborators involved and a brief description of their expertise.

If you are proposing to undertake new research directly, a description of the research projects should be included, and a budget provided (see Section 9).

SECTION 7
TECHNOLOGY TRANSFER & DEMONSTRATION
(10 pages max.)

As important as developing and applying new forestry practices and management concepts to the Model Forest, is demonstrating to other forest managers and stakeholders the new approaches being taken and the results being achieved.

Describe how you propose to widely diffuse the results and accomplishments of the Model Forest to others in the forest sector, as well as establishing direct linkages to other Model Forests to be created in the network.

SECTION 8
PUBLIC AWARENESS & EDUCATION
(3 pages max.)

Participants will be required to participate in network-wide activities to be coordinated by Forestry Canada in order to promote the Model Forests program and to identify areas as Model Forests. State your willingness or any constraints to your participation in such activities.

In addition, Model Forests are expected to undertake local programs to enhance public awareness of their activities. Summarize any local plans and activities that would be undertaken to raise awareness and educate the public on sustainable development in forestry, and the changes and activities taking place on the Model Forest.

SECTION 9
BUDGET AND ADMINISTRATION
(5 pages max.)

9.1 Project Administration

Describe how federal funds for this project will be administered and managed. Identify organizations responsible for the receipt and management of federal funding. Describe how costs associated with the proposal will be separated from regular operations. Identify proposed administrative and operational structures to coordinate activities, monitor progress, set schedules and control spending for the project.

9.2 Budget

Complete the forms included to outline the budget for your proposal for each of the five years. Assume work can commence in the summer of 1992.

Page 1. Budget Summary

Expenses

Include the total expenses forecasted for your proposal. This should be the total derived from completing the "Expense Detail" budget forms included as Pages 2-1, 2-2 and 2-3 (see notes below). The total reported should match the total of the "Expense Detail" forms at the bottom of Page 2-3.

Funding

Include a breakdown of the proposed funding for your proposal. Funding from the various sources (applicant, proponent etc.) should be indicated as well as the requested amount from Forestry Canada. For each organization indicated as providing funding to the proposal, a letter confirming this funding should be attached as an Appendix to the proposal.

Pages 2-1 to 2-3. Expense Detail

Indicate for each of the five years the expenses that will be incurred under the proposal on pages 2-1, 2-2 and 2-3. *Do not include costs for existing support services within an organization, such as administrative, personnel, financial, library and building services, space and buildings, hospitality, insurance etc.* Only additional costs directly related to the Model Forest proposal should be included. Total the expenses for each year at the end of Page 2-3 and put this total on the Expenses line of the Budget Summary on Page 1.

Expenses should be broken down in the areas as outlined in your proposal as follows:

Section 4 Management
Section 5 Activities & Deliverables
Section 6 Research
Section 7 Technology Transfer & Demonstration
Section 8 Public Awareness & Education

Additional space is provided to detail other expenses as appropriate.

Section 9
Page 1

Model Forests – Budget Summary

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Expenses						
Estimated Project Expenses (Total from expense detail – Page 2-3)						
Funding						
Project Applicant						
Provincial Government						
Other Partners (please list)						
_____						
_____						
_____						
Others (please list)						
_____						
_____						
_____						
Request – Forestry Canada						
Total Funding						

Section 9
Page 2-1

Model Forests – Proposed Expenses

Item	*Proposal Section*	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
Management (Please specify)	*Section 4*						
_____							
_____							
_____							
_____							
_____							
_____							
Sub-Total							
Activities & Deliverables (Please specify)	*Section 5*						
_____							
_____							
_____							
_____							
_____							
_____							
Sub-Total							

Section 9
Page 2-2

MODEL FORESTS – PROPOSED EXPENSES

	Proposal Section	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
RESEARCH (Please specify)	*Section 6*						
SUB-TOTAL							
TECHNOLOGY TRANSFER (Please specify)	*Section 7*						
SUB-TOTAL							
PUBLIC AWARENESS (Please specify)	*Section 8*						
SUB-TOTAL							

Section 9
Page 2-3

MODEL FORESTS – PROPOSED EXPENSES

ITEM	Proposal Section	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL
OTHER EXPENSES (Please specify)							
SUB-TOTAL							
TOTAL EXPENSES *(enter on Expenses Line of Budget Summary – Page 1)*							

APPENDIX 1

Overview of Research under Green Plan's Partners in Sustainable Development of Forests Program

Through the Green Plan's *Partners in Sustainable Development of Forests* program, Forestry Canada will facilitate an accelerated program of forestry research in the Universities, the private sector and in-house, addressing the following priority areas:

Decision Support Systems

The adoption of an integrated resource management philosophy and its application on a large scale will require major shifts in understanding and support on the part of the forestry profession and the general public. There is an urgent need to develop more effective data management and decision-support systems to assist resource managers in making more appropriate, holistic management decisions that take into account all forest values. An integrated suite of geographic information, remote sensing and computer-based expert systems for application to forest resource management, including forest protection, will be developed by 1995 as the result of a new research thrust.

Integrated Pest Management

Integrated pest management (IPM) is a component of integrated forest management. IPM provides an ecological approach to reducing damage from insects, diseases and competing vegetation to economically acceptable levels through a variety of pest management options. Associated with the development of these options and new technologies is the overriding emphasis on preserving environmental integrity. Natural (and enhanced) biological control agents and strategies for the management of insects, diseases and competing vegetation will be developed through an expanded research program over the next five-year period and will be made available to forest managers.

Forestry Practices

There is little question that the forest sector will have to shift to more environmentally focused forest management practices. Research is essential to understand the decision-making processes and effects such activities as site preparation, reforestation and stand tending have on biological characteristics and ecosystem processes. Timber harvesting and recovery techniques that significantly reduce unacceptable environmental impacts on the forest ecosystem will be developed and implemented in cooperation with industry and the provinces. Alternative vegetation management and silvicultural practices, including impact assessments, will be formulated through an enhanced research program and applied on an incremental basis in forestry operations. The potential impacts of sustainable forestry practices, while they may be less severe than conventional forestry, will be different. Research on the long-term impacts of sustainable forestry on lakes and reservoirs is required. In addition, existing demonstration forests will be more adequately described and publicized, and other technology transfer activities will be expanded, in order to encourage improved resource management.

Forest Fire

Predicted global warming may increase fire frequency and intensity leading to major global natural disasters. Uncontrolled forest fire losses and the associated increases in atmospheric carbon could seriously jeopardize sustainable development objectives nationally and internationally. An advanced generation of fire-management information systems and models will be developed for effective planning to reduce fire losses and suppression costs while ensuring the viability of plant and animal populations. A program will be established in cooperation with DIAND (Yukon), GNWT and provincial governments, academic institutions and the private sector, to enhance technology transfer and provide training to assist forestry agencies in managing natural forest fire disasters.

Bioenergy

The use of fossil fuels aggravates the problem of global warming. The development and use of alternative fuels from renewable sources such as woody biomass would have a beneficial effect on the carbon balance. An assessment of the environmental impacts of forest plantations and other forms of management for biomass energy purposes will be conducted through funding from existing programs. Guidelines will be developed in consultation and cooperation with Energy, Mines and Resources for the integration, in an environmentally sound manner, of biomass energy within the mixture of products derived from forest ecosystems.

Environmentally Acceptable Forest Products and Processes

New techniques to more efficiently harvest and use the timber resources without creating unacceptable environmental impacts must be developed. Industrial biotechnology, through the application of advanced biological technologies, is creating opportunities to address concerns related to processing of forest products. Technologies that promote higher levels of recycling of materials, such as waste fibre at the industrial and consumer levels, as well as higher fibre recoveries in manufacturing, will be developed and promoted.

Biological systems to treat pulp mill effluent will be developed to minimize environmental effects. In partnership with ISTC and industrial agencies, including but not limited to Forintek, Feric and Paprican, a program of research will be put

in place on biological techniques to reduce energy input into pulping systems. Research will be expanded to develop biological rather than chemical methods for control of sapstain and decay in solid wood products.

Bio-monitoring

The health of the world's forests, including those under Canada's stewardship, has been an issue of increasing concern during the past decade, as stresses from acid rain, air pollution, severe climatic events and man's encroachment become more severe. These stresses affect the production of wood and/or the role of forests in providing a healthy environment. In response to this concern, Canada developed a unique forest health monitoring system that has now been in use for five years; a similar system, modeled on the Canadian approach, is in place in the United States and assistance is being provided to install a comparable system in Mexico. Nevertheless, the present Canadian monitoring system covers only a small proportion of the forest ecosystems at risk, and it is therefore now necessary to expand and intensify this network so as to improve our ability to detect and assess the subtle effects of atmospheric pollutants and other stresses on complex and highly variable forest ecosystems.

More complete knowledge of stress effects and forest health is also an essential prerequisite for developing a capability to predict change and design useful forest management decision support systems.

National Forest Database

To ensure that Canadians have a clear appreciation of the forest resource sector, it is incumbent upon governments and industry to make available information which provides a clear and objective view of the issues and options they face in dealing with forest resource matters. Each of the provincial, federal (Yukon) and territorial governments has a compendium of statistics relating to the forest resource base for which it has managerial responsibility. What is lacking is a nationally focused, comprehensive, statistical basis to provide the underpinning for policy and program development to address cross-jurisdictional problems and issues in areas such as the environment, economic and regional development and international trade. In conjunction with provincial and territorial forest agencies, Forestry Canada is developing a National Forestry Database program. The database will describe the existing stock of Canada's forest resource and provide statistical information on the annual accruals (i.e. reforestation activities) and depletions (i.e. harvests, fire, disease) to this important national resource. The database will also include the financial flows (i.e. revenues and expenditures) associated with forest sector primary activities. Special attention will be given to developing statistical measures of the non-timber attributes of the forest resource (i.e. environmental, wildlife, recreational) as part of the comprehensive database.

An operational National Forestry Database and publications program, along with an initial formulation of a public information program, will be put in place under the guidance of a federal/provincial steering committee. This will lead to an expanded and enriched operational National Forestry Database program and to an operational public information program based on data that the program generates.

Ecological Forest Land Classification

Forestry Canada will work with NSERC, other federal departments and the universities to develop a special initiative to improve our understanding of forest ecosystems. This will include support for basic research on biological growth processes and ecosystem dynamics. It will also include the completion of an integrated national series of ecological forest land classifications and publication of a number of biogeoclimatic maps to help forest land managers make effective decisions.

Seed and Gene Bank

The conservation and management of germplasm resources (plants, insects and microbials) is a central issue facing both the developed and developing worlds. As increasing pressures are being placed on ecosystems, samples which faithfully represent genetic diversity must be conserved. A seed and gene bank to conserve seed samples and regenerable tissue samples of genetically improved lines of Canadian tree species will be established in cooperation with other forestry agencies and Agriculture Canada. By 1995, the centre will be expanded to include conservation of insect cell lines used for pharmaceuticals. An improved facility will be set up to maintain representative samples of mycological and microbiological organisms for forestry applications.

Ecological Reserves

Ecological reserves are required to ensure the long-term protection of intact plant and animal communities and to provide environmental baselines to compare the impact of human interventions on forest ecosystems. These concepts and considerations extend to all organisms, regardless of their economic or ecological value. Consideration also needs to be given to gene pools and species which may not play an obvious role today. Establishment and stewardship of a national network of ecological reserves that are representative of major ecoregions and forest cover types in Canada will be supported in cooperation with other government and non-government agencies. Canada currently has 31.7 million hectares of highly-protected conservation areas. Some additions will be required to complete the network of highly-protected conservation areas.

Conclusion

As a result of this integrated series of research initiatives, and the establishment of the planned Network of Model Forests, we will have taken the first major steps towards the systemic change in attitudes and organizational structure that is so vital if

the forest sector is to embrace sustainable development in a meaningful and effective way. In a sustainable development mode, institutional structures will have to change in order to better recognize all forest values and allow all interested persons and agencies to contribute to the decision-making process. Further, organizational structures will have to be created in both government and industry to ensure that sustainable development objectives and processes become "institutionalized" for the future. This must be accompanied by a change of attitudes, both within and outside the forest sector, so that we can work towards a more appropriate recognition of all forest values, a more efficient use of wood-based material and energy and an equitable distribution of the risks and benefits across all parts of society. The proposed initiatives have been specifically designed to set just such a process in motion.

APPENDIX 2

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